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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/813,893  
Filing Date: March 31, 2004  
Appellant(s): TRAVELUTE ET AL.

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Philip Summa  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 02/04/2009 appealing from the Office action mailed 12/07/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 1-9, 11-16, 20, 21, 40, 41, 43, 45-48, 51-57 and 60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-67 of copending Application No. 11/244,687 (US 2006/0057359 is a Patent Application Publication of Application No. 11/244,687) .

Claims 1-9, 11-16, 20, 21, 40, 41, 43, 45-48, 51-57 and 60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-48 of copending Application No. 11/364,242 (US 2007/0059511 is a Patent Application Publication of Application No. 11/364,242).

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

**GROUND OF REJECTION NOT ON REVIEW**

The following grounds of rejection have not been withdrawn by the examiner, but they are not under review on appeal because they have not been presented for review in the appellant's brief.

Claims 55-57 and 60 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Li et al. (US 4,626,390).

Claims 1-7, 11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829) as applied to claim 1, and further in view of Soehngen et al. (US 4,290,987).

Claims 8, 9, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829) as applied to claim 1, and further in view of JP 08-260285.

Claims 40, 41, 43, 45-48, and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829) and Travelute et al. (US 5,407,625).

Claims 1-9, 11-16, 20, 21, 40, 41, 43, 45-48, 51-57 and 60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being

unpatentable over claims 1-67 of copending Application No. 11/244,687 (US 2006/0057359 is a Patent Application Publication of Application No. 11/244,687).

Claims 1-9, 11-16, 20, 21, 40, 41, 43, 45-48, 51-57 and 60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-48 of copending Application No. 11/364,242 (US 2007/0059511 is a Patent Application Publication of Application No. 11/364,242).

#### **(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

#### **(8) Evidence Relied Upon**

6,485,829	NICHOLS et al.	11-2002
5,407,625	TRAVELUTE et al.	04-1995
4,626,390	LI et al.	12-1986
4,164,603	SIGGEL et al.	08-1979
US 2007/0059511	EDWARDS et al.	03-2007
US 2006/0057359	TRAVELUTE et al.	03-2006
4,290,987	SOEHNGEN et al	09-1981

English Translation of JP 08-260285, Masayuki Sato et al., "Polyester Textile Article," October 08, 1996.

Plasticizer definition from Wikipedia, the free encyclopedia.

#### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

*Claims 1-6, 11, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siggel et al. (US 4,164,603) in view of Nichols et al. (US 6,485,829) and Soehngen et al. (US 4,290,987).*

Siggel discloses a filament of polyester having a plurality of voids occupying from 5 to 50 volume %, which is within the claimed range (column 5, lines 5-7). The filament has 12 to 18 cells per axial cross section (column 8, lines 50-51). The filament contains silicone and a nucleating agent which aids the formation of the voids during the spinning process (column 2, lines 55-60). Siggel discloses the filament with a density lower than 1 g/cc can be obtained (column 4, lines 19-20). There are no burst surface areas in the filament (column 9, lines 28-29). Likewise, the filament has a smooth surface. The filaments are useful as an upholstery material which reads on Appellants' fabric material (example 3). Siggel does not specifically disclose the use of copolymer of polyester and polyethylene glycol for the filaments. Nichols, however, discloses a non-woven fabric material made from polyester filaments that are modified with polyethylene glycol in the amount of 6% by weight to 16% by weight to produce the fabric with exceptionally good esthetics and hand. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the copolymer of polyester and polyethylene glycol for the polyester filament motivated by the desire to have the fabric having the wetting and wicking properties similar to those of cotton and other natural fibers while maintaining the elasticity of the polyester fibers, thereby producing exceptionally good esthetics and hand in the fabric. It appears that Siggel as modified Nichols uses the same copolymer as Appellants, namely a copolymer comprising

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polyester and polyethylene glycol present in amount of between about 6 to 10 wt%.

Therefore, it is the examiner's position that the polyester copolymer would substantially inherently have a greater elasticity than the corresponding monomer-based polyester.

Siggel discloses the use of the nucleating agent but Siggel does not specifically disclose a content of the nucleating agent is used. Soehngen, however, teaches the use of silica or PTFE particle with a particle size of 0.5 to 1 microns as a nucleating agent for the formation of polyester filaments (column 5, lines 25-30, 45-50). Soehngen teaches the nucleating agent present in the amount of 0.01 to 1 % by weight of the polyester composition. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the nucleating agent with the amount as taught by Soehngen motivated by the desire to aid the formation of the voids during the spinning process. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the PTFE particle for the silica as the nucleating agent since PTFE and silica have been shown in the art to be recognized equivalent nucleating agents for low density polyester fibers.

*Claims 8, 9, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siggel et al. (US 4,164,603) in view of Nichols et al. (US 6,485,829) and Soehngen et al. (US 4,290,987) as applied to claim 1 above, further in view of JP 08-260285.*

Siggel does not specifically disclose the fibers having the grooves formed on the fiber surfaces. JP'285, however, teaches a woven polyester fabric comprising the fibers having the grooves formed on the fiber surfaces to provide a fabric that is light in weight

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and has excellent characteristics of appearance, hand and comfort (abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use fibers having the grooves formed on the fiber surfaces motivated by the desire to provide a fabric that is light in weight and has excellent characteristics of appearance, hand and comfort.

*Claims 55-57 and 60 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Li et al. (US 4,626,390).*

Li discloses a self-crimping foamed fiber made from polyester having a volume fraction of at least 10 % overlapping with the claimed range (abstract). The foamed fiber has at least 5 cells per axial cross section as shown in figure 5. Li discloses the foamed fiber having a denier of 15 and a density less than 0.9 g/cc (table). Li discloses the fiber having a plurality of closed cells and open cells distributed over the cross-sectional area of the fiber (column 1, lines 10-15). The total stretch ratio of both spinning and drawing is about 5 to 250 (column 5, lines 35-40). As shown in figures 6-10, the fiber has a fibrillated surface. Li does not teach the fiber with irregular longitudinal surface effects. However, in accordance with the specification of the present invention, the surface effects (smooth, fibrillated, channeled and pitted) are dictated by the void volume, cells per axial cross section and total stretch ratio of both spinning and drawing. Li discloses a fiber having the void volume, cells per axial cross section and total stretch ratio of both spinning and drawing within the claimed ranges. Therefore, it is not seen that the fiber could not have surface effects as set forth in the claims. Accordingly, Li anticipates or strongly suggests the claimed subject matter.

*Claims 1-7, 11, 13-15, 17-19, 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829).*

Li discloses a self-crimping foamed fiber made from polyester having a volume fraction of at least 10 % encompassing the claimed range (abstract). The foamed fiber has at least 5 cells per axial cross section as shown in figure 5. Li discloses talc present in the amount of 0.2 % by weight (example 3). Li discloses the foamed fiber having a denier of 15 and a density less than 0.9 g/cc (table). Li discloses the fiber having a plurality of closed cells and open cells distributed over the cross-sectional area of the fiber (column 1, lines 10-15). Figure 5 shows that the foamed fibers having a pitted surface. As shown in figures 6-10, the fiber has a fibrillated surface. Li does not specifically disclose the use of copolymer of polyester and polyethylene glycol for the filaments. Nichols, however, discloses a non-woven fabric material made from polyester filaments that are modified with polyethylene glycol in the amount of 6% by weight to 16% by weight to produce the fabric with exceptionally good esthetics and hand in the fabric. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the copolymer of polyester and polyethylene glycol for the polyester filament motivated by the desire to have the fabric having the wetting and wicking properties similar to those of cotton and other natural fibers while maintaining the elasticity of the polyester fibers, thereby producing exceptionally good esthetics and hand. It appears that Li as modified Nichols uses the same copolymer as Appellants, namely a copolymer comprising polyester and

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polyethylene glycol present in amount of between about 6 to 10 wt%. Therefore, it is the examiner's position that the polyester copolymer would substantially inherently have a greater elasticity than the corresponding monomer-based polyester.

Li does not specifically disclose that the self-crimped foamed fiber is hollow. However, Li mentions the hollow fibers are known in the art. Travelute discloses the hollow filaments that are light in weight. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the hollow self-crimped foamed fibers motivated by the desire to reduce the weight and the cost of the product without affecting the mechanical strength of the fibers.

*Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829) as applied to claim 1 above, further in view of Soehngen et al. (US 4,290,987).*

Li discloses the use of silica as a nucleating agent, but Li does not specifically disclose the use of PTFE particle as the nucleating agent. Soehngen, however, teaches the use of silica or PTFE particle with a particle size of 0.5 to 1 microns as a nucleating agent for the formation of polyester fibers (column 5, lines 25-30, 45-50). Soehngen teaches the nucleating agent present in the amount of 0.01 to 1 % by weight of the polyester composition. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute PTFE particles for silica since two substances have been shown in the art to be recognized equivalent nucleating agents for formation of polyester fibers.

*Claims 8, 9, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829) as applied to claim 1 above, further in view of JP 08-260285.*

Li does not disclose the fibers having the grooves formed on the fiber surfaces. JP'285, however, teaches a woven polyester fabric comprising the fibers having the grooves formed on the fiber surfaces to provide a fabric that is light in weight and has excellent characteristics of appearance, hand and comfort (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use fibers having the grooves formed on the fiber surfaces motivated by the desire to provide a fabric that is light in weight and has excellent characteristics of appearance, hand and comfort.

*Claims 40, 41, 43, 45-48, and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 4,626,390) in view of Nichols et al. (US 6,485,829) and Travelute et al. (US 5,407,625).*

Li discloses a self-crimping foamed fiber made from polyester having a volume fraction of at least 10 % encompassing the claimed range (abstract). The foamed fiber has at least 5 cells per axial cross section as shown in figure 5. Li discloses silica as a nucleating agent present in the amount of at least 0.2 % by weight (column 3, line 35 and column 4, line 1-2). Li discloses the foamed fiber having a denier of 15 and a density less than 0.9 g/cc (table). Li discloses the fiber having a plurality of closed cells and open cells distributed over the cross-sectional area of the fiber (column 1, lines 10-15). Figure 5 shows that the foamed fibers having a pitted surface. As shown in

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figures 6-10, the fiber has a fibrillated surface. Li does not specifically disclose the use of copolymer of polyester and polyethylene glycol for the filaments. Nichols, however, discloses a non-woven fabric material made from polyester filaments that are modified with polyethylene glycol in the amount of 6% by weight to 16% by weight to produce the fabric with exceptionally good esthetics and hand. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the copolymer of polyester and polyethylene glycol for the polyester filament motivated by the desire to have the fabric having the wetting and wicking properties similar to those of cotton and other natural fibers while maintaining the elasticity of the polyester fibers, thereby producing exceptionally good esthetics and hand in the fabric. It appears that Li as modified Nichols uses the same copolymer as Appellants, namely a copolymer comprising polyester and polyethylene glycol present in amount of between about 6 to 10 wt%. Therefore, it is the examiner's position that the polyester copolymer would substantially inherently have a greater elasticity than the corresponding monomer-based polyester.

Li does not specifically disclose that the self-crimped foamed fiber is hollow. However, Li mentions the hollow fibers that are known in the art. Travelute teaches the hollow filaments that are light in weight. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the hollow self-crimped foamed fibers motivated by the desire to reduce the weight and the cost of the product without affecting the mechanical strength of the fibers.

Li does not specifically disclose the self-crimped foamed fiber having different degrees of orientation along at least two adjacent longitudinal portions of the fiber. Travelute, however, teaches self-texturing filament having different degrees of orientation along at least two adjacent longitudinal portions of the filament. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the foamed fibers having different degrees of orientation along at least two adjacent longitudinal portions of the filament by preferentially directionally quenching as disclosed by Travelute because the differences in orientation cause the filament to shrink to different extents on the opposite sides of its cross section, thereby enhancing the crimping of the fibers, i.e., a helical or spiral crimp of the filament is obtained.

*Claims 1-9, 11-16, 20, 21, 40, 41, 43, 45-48, 51-57 and 60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-67 of copending Application No. 11/244,687. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '687 application fully encompass the claimed subject matter.*

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

*Claims 1-9, 11-16, 20, 21, 40, 41, 43, 45-48, 51-57 and 60 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-48 of copending Application No. 11/364,242. Although the*

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conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '242 application fully encompass the claimed subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### **(10) Response to Argument**

*The examiner's comments regarding the 103 rejections based on Siggel, Nichols and Soehngen.*

Appellants contend that the transitional phrase "consisting essentially of" is sufficient to exclude silicone oil which is a required component of Siggel from the claimed invention because Siggel has demonstrated that the silicone oil materially affects the properties of polyester filaments. Appellants then conclude that the silicone oil would materially change the characteristics of Appellants invention. The arguments are not found convincing for patentability for the following reasons. In the first place, the examiner notes that the combination of a thermoplastic polymer and silicone oil with a content up to 1% by weight results in the filaments with a plurality of adjacent, separate, discontinuous cavities. However, since the filaments of Appellants invention already possess a plurality of adjacent, separate, discontinuous cavities without the presence of the silicone oil, the discrete cavities were formed in the filaments of the present invention regardless of the addition of the silicone oil. Note that Appellants have not provided any factual evidence indicating that the silicone oil may materially change the density, porosity of the filaments and/or the shapes, diameters of the discrete cavities. The transitional phrase "consisting essentially of" is thus treated as "comprising" until

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Appellants provide the evidence in establishing that non-recited components materially change the characteristics of present invention. Appellants bear the burden in establishing that the silicone oil materially affects the characteristics of present invention in order to overcome the finding of obviousness (MPEP 2112; *In re Delajarte* 143 USPQ 256).

In addition, it has been shown in the art that the silicone oil serves as a plasticizer to improve the gliding properties of the polymer in the extruder (see Siggel, column 4, lines 50-53). In accordance with Wikipedia, the free encyclopedia, *“Plasticizers are additives that increase the plasticity or fluidity of the material to which they are added, these include plastics, cement, concrete, wallboard and clay bodies. The plasticizers for plastics soften the final product increasing its flexibility.”* As the silicone oil is intended to soften the polymers which are constituted of the filaments thereby increasing the flexibility of the filaments, the silicone oil likewise does not adversely affect the void formation of the filaments. Finally, Appellants have not presented any arguments against the other art rejections as well as the provisional double patent rejections. It appears Appellants agree with the examiner about the rejections. Accordingly, the examiner urges that the Board summarily affirms the rejections.

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**(11) Related Proceeding(s) Appendix**

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Hai Vo/

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/Callie E. Shosho/

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